WHITE PAPER:

Coalbed Methane Storage in Abandoned Coal Mines in West Virginia

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COALBED METHANE STORAGE IN ABANDONED COAL MINES IN WEST VIRGINIA

I. History of Coalbed Methane Development

Issues of Importance to Coalbed Methane Storage in West Virginia

Coalbed methane, also known as coal seam gas, occluded natural gas, and gob gas, has historically been considered one of the greatest dangers to coal mining. Collected methane gas was intentionally vented to prevent accidental explosions or asphyxiation. Commercial extraction of coalbed methane was economically impractical.[1] Consequently, when deeds, contracts and statutes relating to coal and mining rights were drafted, the drafters rarely considered the question of coalbed methane ownership because it was considered valueless.[2]

Modern extraction methods have now made coalbed methane production practical. The analysis of coalbed methane ownership is thus complicated by the need to determine the intent of the parties at the time the contracts and/or deeds were drafted and executed. Courts are being called upon to determine the ownership of coalbed methane in situations where mining and mineral rights have been divorced from other incidents of ownership of the lands at issue. In its simplest form, the question is whether the entity which acquires the coal and/or gas rights, also acquires the coalbed methane rights.

The issue will also give rise to questions concerning the storage rights of coalbed methane. Can coalbed methane be stored in abandoned coal mines? If so, who owns the

container space — the coal owner or the surface owner? These questions necessarily involve a complex interaction between traditional property and mineral rights laws.

In order to gain a perspective of coalbed methane development and the ensuing case decisions, it is essential to look at the beginning of coalbed methane development in the United States. The first serious research regarding coalbed methane production occurred in the 1970s when the U.S. Bureau of Mines and U.S. Steel developed a test project in the Black Warrior Basin in Alabama.[3] This program was expanded by the Bureau of Mines and the Department of Energy into a 23-well project. The project demonstrated that 73% of the "in-place" methane could be produced through vertical wells.[4] The Gas Research Institute (GRI) began its coalbed methane research in the 1980s. Its activities relating to coalbed methane have included estimating and evaluating the resource, cooperative well studies, reservoir engineering analysis, fracturing and completion work, operational improvements and recompletion of wells.[5]

The increased production of coalbed methane in the Appalachian, Black Warrior, San Juan, Piceance, Powder River and Greater Green River Basins indicates that coalbed methane has emerged as a valuable energy resource. In 1982, the national annual coalbed methane production was virtually zero.[6] By 1990, production nationwide had risen to 195 billion cubic feet (bcf), approximately 475 bcf was produced in 1992, and 1993 production reached 730 bcf.[7] Coalbed methane production increased to 858 bcf in 1994.[8] The number of coalbed methane wells in the nation had grown from a handful in 1982 to more than 6,600 in 1992.[9] By 1994, coalbed methane accounted for five percent (5%) of the nation's natural gas production.[10] Nationwide coalbed methane production increased by fifty percent (50%) during the period between 1992 and 1994.[11] According to Richard A. Schraufnagel at GRI, coalbed methane production in 1995 reached 900+ bcf and 1996 coalbed methane production topped the 1,000 bcf mark.[12]

II. Summary of Coalbed Methane Development in West Virginia

It is also important to examine the history of coalbed methane development in West Virginia to gain a perspective of the treatment of this mineral. The first coalbed methane production in West Virginia probably occurred in the early 1990s, although the West Virginia statutory provisions governing coalbed methane did not take effect until 1994. Coalbed methane was not recognized separately from conventional gas until after 1994.[13] The West Virginia Office of Oil and Gas does not keep statistics of coalbed methane production separately because coalbed methane production is still minimal compared to conventional gas production. [14] As compared to conventional gas production, coalbed methane production in West Virginia still represents only five percent (5%) of the total gas production, if that much.[15]

Nevertheless, coalbed methane production is increasing rapidly in West Virginia. In southern West Virginia, seventeen wells were permitted in 1995. These include fifteen wells in the Welch field in McDowell and Wyoming Counties and two wells in the Slab Fork field. Twelve new wells were permitted in southeastern West Virginia in 1995. For 1996, four new coalbed methane wells were permitted in southeastern West Virginia, all to be drilled by U.S. Steel Mining. There has also been coalbed methane production reported in Northern West Virginia, although the information regarding number of wells permitted is not complete. In Monongalia County, located in Northern West Virginia, eight coalbed methane ventilation wells were permitted in 1995. In 1996, three new wells were permitted in that county.[16]

Although there are no definite figures for the total number of coalbed methane wells currently in operation in West Virginia, the Office of Oil and Gas estimates that there are between fifty and one hundred wells producing coalbed methane in the state.[17] The West Virginia Geological Survey also maintains some records regarding coalbed methane production. They have documented at least thirty-two coalbed methane wells in current production. According to records maintained by the Geological Survey, there are fifteen wells currently operating in Northern Western Virginia. The coalbed methane production from these wells is gob production -- production developed after the area has been mined. The production in southern West Virginia from coalbed methane wells has occurred prior to mining.[18]

In southeastern West Virginia, there is substantial potential for coalbed methane development, particularly in Wyoming, Raleigh and McDowell Counties, similar to the potential in Dickenson and Buchanan Counties in Virginia.[19] As coalbed methane development continues to increase and landowners gain additional knowledge of the value of this commodity, we may anticipate that additional ownership issues, such as storage and ownership of the storage container, will arise.

III. Coalbed Methane Ownership Issues as Related to Coalbed Methane in Abandoned Mines

In evaluating the use of abandoned coal mines for storage of coalbed methane, it is important to analyze the issues surrounding the ownership of the coalbed methane itself. An understanding of these ownership issues is necessary to recognize the potential ownership issues involving storage: (1) who has the power to grant storage rights?; (2) who owns the container space once the mineral it held is depleted?; (3) who determines when the mineral is actually depleted?; and (4) who owns the abandoned mine and shafts? These issues may give rise to the same interpretive issues raised by the parties engaged in coalbed methane ownership disputes.

Additional ownership issues relating to storage of coalbed methane in abandoned coal mines involves the use of cushion gas. In any storage facility, there must be a pocket

or cushion of gas in place in order to provide the pressure needed to operate the facility.[20] Cushion or base gas is the gas in the reservoir (abandoned mine) which is native to the reservoir and/or injected into the reservoir.[21] If the cushion gas is native coalbed methane, that is gas remaining in the mine, the importance of coalbed methane ownership issues is apparent. Who will be compensated for the coalbed methane remaining in the mine -- the coal owner, the gas owner, the surface owner? How does the fact that there is coalbed methane in the mine affect the ownership of the abandoned mine container space?[22] If no cushion gas exists or there is not enough cushion gas to maintain pressure in the abandoned mine, how will the injected gas affect the ownership issues? These issues will surely arise and will need to be answered in establishing an abandoned mine storage environment in West Virginia.

Thus, it is imperative that we examine the issues of coalbed methane ownership. The question of the extent of mineral rights conveyed or reserved generally includes a consideration of the intent of the parties or drafters of the instruments (deeds and leases) or statutes which created the rights.[23] Therefore, courts are now being called upon to determine the intent of individuals who historically gave little, if any, consideration and likely never formed any intent as to the ownership of coalbed methane. In some instances, however, the courts must also decide whether the intent of the parties or legislators is or should be a factor in the coalbed methane ownership determinations.[24]

a. Coal Owner Argument

Many cases analyzing the coalbed methane ownership issue have included arguments regarding the definitions of "coal"[25] and "gas."[26] The location of the coalbed methane in the coal seam provides the coal owner with a substantial claim. The coal owner may claim that the coalbed methane is an inherent part of the coal and that ownership of the coal seam includes ownership of the "gas" contained within it.[27] The coal owner may further argue: (1) coalbed methane is adsorbed onto the coal; (2) the physical bond between the coal and the coalbed methane is so close that the two cannot be separated; and (3) the coal seam is the source of and the reservoir for the coalbed methane.[28]

b. Oil and Gas Owner Argument

The gas owner may argue that the chemical composition of coalbed methane is nearly identical to that of natural gas.[29] This fact provides the gas owner with a significant argument for ownership. Another theory the gas owner may espouse is that the right to produce coalbed methane from coal is no different than the right to remove natural gas from other subsurface formations (i.e. the sandstone formation, which may not belong to the gas estate owner).[30] The plain meaning of "gas" appears to definitively include coalbed methane. In contrast,

"coal" commonly means a solid mineral, not a gas.[31] The oil and gas owner may also argue: (1) recovery methods parallel that of natural gas; (2) the migratory nature of coalbed methane is the same as that for natural gas; and (3) reversion of the container space to the gas owner once the coal is mined gives them a right to the gas (in cases where the gas owner is also the surface owner). However, in analyzing the ownership issue, only a few courts have held that "gas" includes coalbed methane.

c. Surface Owner Argument

A surface owner may claim an interest in the coalbed methane, although this position is clearly the weakest. In West Virginia, it can be argued that ownership of the container space reverts to the surface owner once the coal is removed.[32] Therefore, a surface owner could claim that since he owns the container space where the coal was situated, he could also claim ownership of the coalbed methane within that space. This would not, however, be a substantial argument. The gas or coal owner could easily counter that as the "mineral" owner, they are entitled to ownership of the mineral within the container space. One fact situation that may afford an ownership claim by the surface owner is where the coal, oil and gas have been specifically severed. The surface owner could claim that since coalbed methane was not contemplated (but considered to be a hazard) at the time of the severance, ownership of the non-severed mineral, the coalbed methane, remains with the "surface" or "other mineral" owner.[33]

For example, assume that Landowner A owns the property in fee simple (no prior mineral severances). Landowner A sells the property to Landowner B reserving the coal. Landowner B subsequently sells the property to Landowner C reserving the oil and gas. Landowner A owns the coal and Landowner B owns the oil and gas. Thus, Landowner C, the "surface owner," would apparently own the residual minerals. If the coal owner (Landowner A) and the oil and gas owner (Landowner B) do not own the coalbed methane, the "surface owner" (Landowner C) as the residual mineral owner could claim the coalbed methane ownership. The issue is further complicated by coal lessees, oil and gas lessees and mineral lessees.

d. Successive Interest Argument [34]

Under this position, the coal owner has title to the coalbed methane adsorbed onto the coal but he loses title when it escapes into the gob zone created by longwall mining. [35] Therefore, such gas as is present in the coal must necessarily belong to the owner of the coal, so long as it remains within his property and subject to his exclusive dominion and control. Where the surface owner has title

to the property surrounding the coal, he owns the amount of the coalbed gas as migrates into the surrounding property. [36]

IV. Coalbed Methane Case Decisions

There are nine (9) decided, one (1) pending, and two (2) settled coalbed methane cases in the United States of significance to coalbed methane ownership. Many of the opinions have arisen in Alabama. In all of the cases, slightly different fact situations resulted in different holdings. The decided cases represent the landmark decisions and issues surrounding coalbed methane ownership. They are relevant to storage issues in West Virginia because the theories and analyses of the various courts will provide insights into past and current views on coalbed methane ownership. The issues discussed in these cases may afford an opportunity for understanding the interpretive issues that may be faced by storage operators in West Virginia.

Presently, there have been no coalbed methane ownership cases decided in West Virginia. None of the decided cases constitute binding precedent on West Virginia courts. Nevertheless, courts often look to the decided cases in other jurisdictions for guidance.

a. Decided Cases

i. *Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits*, (M-35935), 88 I.D. 538 (1981)

The Department of the Interior issued this 1981 opinion which concluded that coalbed methane gas was not reserved by the federal government when it reserved coal under the 1909 and 1910 Acts and that the federal government did reserve coalbed methane gas under the 1914 Act when the government reserved gas. The Solicitor's Opinion also concluded that federally owned coalbed gas should be exploited under oil and gas rather than coal legal authorities. These conclusions rested on six principles:

(1) the 1909 and 1910 Acts and their legislative histories;
(2) the 1914 Act and its legislative history;
(3) the Mineral Leasing Act;
(4) other federal legislation addressing the exploitation of associated minerals;
(5) common law and scientific principles; and
(6) coal and gas legal authorities in relation to exploration and production of coalbed gas.[37]

ii. *United States Steel Corp. v. Hoge*, 468 A.2d 1380 (Pa. 1983)

> In *Hoge*, the Pennsylvania Supreme Court held that the gas which is present in the coal necessarily belongs to the coal owner. The court was asked to determine the ownership of coalbed methane, found in the "Pittsburgh" or "River" vein of coal owned by United States Steel Corporation (U.S. Steel), which underlaid certain tracts of land owned by Hoge, Cowan and Murdock (Hoge). U.S. Steel acquired ownership of the coal through a severance deed dated July 23, 1920.
>
> The severance deed granted, in pertinent part, "all the rights and privileges necessary and useful in the mining and removing of said coal, including . . . the right of ventilation."[38] Hoge's predecessor in title reserved "the right to drill and operate through said coal for oil and gas without being held liable for any damages."[39]

In formulating its conclusion, the court considered the history of gas development; the general nature of coal ownership rights; and the language contained in the severance deed in question. The court held that, as a general rule, such gas as is present in coal must necessarily belong to the coal owner, so long as it remains within his property and subject to his exclusive dominion and control.

In examining the language in the severance deed, the court gave "effect to all its terms and provisions, and construe[d] the language in light of conditions existing at the time of its execution."[40] At the time of the severance deed, the court found that commercial exploitation of coalbed gas was very limited and sporadic. Thus, even though the unrestricted term "gas" was used in the reservation clause, the court did not believe the parties intended to reserve all types of gas. The court found "implicit in the reservation of the right to drill through the severed coal seam for 'oil and gas' a recognition of the parties that the gas was that which was generally known to be commercially exploitable."[41] The reservation was limited by the court to the right to drill through the coal seam to reach the oil and gas lying below the coal strata.

iii. *Rayburn v. USX Corp.*, No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 (N.D. Ala. 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988)

In *Rayburn*, the United States District Court for the Northern District of Alabama held that title to the coalbed methane was vested in the coal owner. The court's holding in *Rayburn* was "based on the language of the deed in question and is not a declaration that in all instruments the interpretation will be the same."[42] The pertinent language in the 1960 severance deed on which the court based its decision is as follows:

> Grantors herein covenant and agree that any right to explore for or produce oil and gas, or to drill wells for the exploration for or production of oil and gas in the above-described lands *shall be subject to the requirement that all coal seams located in said lands penetrated in such exploration or drilling operations shall be encased or grouted off . . . .*[43]

The court found this language to be clear and unambiguous. The clearly expressed intent of the parties was that the methane in the coalbed not be available to any well drilled by oil and gas lessees or assigns.[44]

iv. *Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation*, No. M-36970, 98 I.D. 59 (1990)

The Department of the Interior rendered a decision addressing the question of whether coalbed gas was granted under oil and gas leases issued for Indian lands. The Department concluded that coalbed gas was granted under these leases. First, the Department determined that coalbed gas is "natural gas," noting that this conclusion was not altered by the physical status of coalbed gas and recognizing that many types of gas take gaseous or liquid forms in reservoir rock.[45] Second, the Department concluded that the term "oil and gas deposit" as used in Indian leases includes coalbed gas.[46] Third, the Department concluded that coalbed gas was conveyed under Indian oil and gas leases irrespective of whether the parties had a specific intent to convey that resource.[47] Fourth, the Department reached these conclusions in reliance upon the 1981 Solicitor's Opinion.[48]

v. *Carbon County v. Baird*, No. DV 90-120, 1992 WL 464786 (Mont. Dist. Ct. Dec. 14, 1992), *rev'd sub nom. Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995)

The lower court in *Carbon* held that the conveyance of "coal and coal rights with the right of ingress and egress to mine and remove the same"[49] included ownership of the coalbed methane gas contained in the coal as well as the exclusive right to develop such gas.

Union Reserve Coal Company was the successor in interest to a 1974 contract of sale that agreed to sell "all coal and coal rights with the right of ingress and egress to mine and remove the same."[50] In 1991, Florentine Exploration and Production, Inc., obtained an oil and gas lease on the property in question. The lease granted Florentine "the exclusive right for the purpose of mining, exploring by geophysical or other methods, and operating for and producing therefrom oil and all gas, including coal seam methane of whatsoever nature or kind . . . ."[51] Florentine attempted to secure a protective coal seam methane gas lease from Union. Florentine, however, drilled a well before securing the protective lease and Union later rejected the offer. Carbon County, the original grantor, initiated the suit and Florentine was allowed to intervene. Florentine sought to quiet title to the coal seam methane gas as conveyed to it pursuant to the aforementioned lease.

Coal seam methane was described by the court, in the findings of fact, as a product of the coalification process.[52] The court thus held that coal is both the source of and the reservoir of the methane. The combination of methane gas and coal was noted by the court to be the cause of frequent and tragic explosions in coal mines.[53] In addition, the court noted that it was important for the coal mine operator to be able to mine the coal in the most economical and effective method.[54] Thus, it is necessary that the coal operator have control over the drilling of wells into the coal seam in order to minimize disruptions to the mining process caused by the drilling and completion of wells in the coalbed.[55]

The decision in the case turned on the interpretation of the language granting the "coal and coal rights." The court relied upon the legal precedents rendered in *United States Steel Corp. v. Hoge*;[56] *Rayburn v. USX Corp.*;[57] and, *Pinnacle Petroleum Co. v. Jim Walter Resources, Inc.*[58] In each of these cases, the courts found in favor of the coal owner. The court noted that removal of methane gas is essential to the mining of coal. Before the coal can be safely mined, the coal operator must remove the methane.[59] These facts and legal principles, combined with the fact that coal is the source of and the reservoir of the coal seam methane gas, led the Montana court to hold that the conveyance of "coal and coal rights with the right of ingress and egress to mine and remove the same"[60] by Carbon

County included "coal seam methane gas as a product of the coalification process, and included with it the ownership of the coal methane gas contained in the coal, as well as the exclusive right to develop or dispose of and [*sic*] coal seam methane."[61] Accordingly, the court held that Florentine trespassed upon the coal. Thus, Florentine's complaint requesting that the court declare it the owner of the coal seam methane gas and its counterclaim that it had acquired the right to produce the coal seam methane gas under the lease were dismissed.[62]

The district court decision was appealed to the Montana Supreme Court.[63] The main issue before the court was whether coal seam methane gas was a constituent part of the coal estate granted to Union.[64] The Montana Supreme Court closely examined the plain meanings of the terms "coal" and "gas" and concluded that coal and gas are mutually exclusive terms.[65] The court opined that "[s]ince coal seam methane gas is a fluid hydrocarbon and is produced at the wellhead, it falls within the statutory definition of gas and again it is distinguishable from coal, a solid hydrocarbon."[66] It also noted that coal seam methane gas is potentially severable from the coal seam.[67]

The *Carbon County* Supreme Court reversed the district court and ruled that the district court had erred in awarding Union Reserve the right to produce the coalbed methane gas from the coalbeds.[68]

The court stated that "Union Reserve only acquired the coal and the incidental right to mine and remove the coal."[69] It found that Florentine had been given the right to extract the coal seam methane gas, and that Union Reserve could extract and capture the gas only for purposes of safety incidental to its coal mining operations.[70] Accordingly, it concluded that coalbed methane gas "is separate from coal and is not a constituent part of the coal estate."[71]

vi. *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305 (Ala. 1993)

In *Vines*, the Supreme Court of Alabama held that the ownership of methane gas, with the accompanying rights to develop and produce it, was included in the coal and mineral conveyances. The conveyancing language contained in two (2) pre-1910 mineral deeds (Deeds) was at issue. The deeds conveyed the following estates: (1) "all of the coal, iron ore, and other minerals";[72] and (2) "all the coal and other minerals."[73] McKenzie Methane Corporation (McKenzie) obtained coalbed methane leases

(Leases) from the successors in interest to the grantees in the Deeds. McKenzie planned to drill coalbed methane wells independent of mining operation. The Grantors sought to prevent drilling operations on the property arguing that coalbed methane was not considered valuable at the time of the Deeds. Thus, coalbed methane was not conveyed by the Deeds and the Leases were, therefore, ineffective. At the trial court level, summary judgment was granted in favor of McKenzie.

The Alabama Supreme Court noted that coalbed methane is produced from coal seams and is formed during and as a by-product of the coalification process. It further noted that although some of the methane migrates out of the coal, a large amount remains behind and is physically bound to the coal. Because coalbed methane is liberated during mining and poses a significant hazard to the miners, it must be removed. The court found that the existence of coalbed methane in commercial quantities was recognized in Alabama as early as the 1920s. It was not, however, a significant industry until the 1980s.[74]

The court relied upon the legal precedents rendered in *United States Steel Corp. v. Hoge*;[75] *Rayburn v. USX Corp.*;[76] and *Carbon County v. Baird*.[77] In each of these cases, the courts held that the coal estate owner was also the owner of the coalbed methane gas.

The Alabama Supreme Court held that the evidence in the case at bar confirmed that the processes for coalbed methane gas drilling and coal mining are inextricably entwined.[78] The drilling process was noted by the court as an intrusion upon coal mining. The court, in keeping with earlier Alabama law construing mineral leases, held that "an express grant of 'all coal' necessarily implies the grant of coalbed methane gas, unless the language of the grant itself prevents this construction."[79] The court found that neither of the Deeds in question contained any limiting language, and in fact, clearly reserved only the surface rights. Accordingly, the court held that the ownership of methane gas, with the accompanying rights to drill for it, was necessarily included in the mineral estates granted in the Deeds and affirmed the summary judgments for McKenzie.[80]

vii. *Cantley v. Hubbard*, 623 So. 2d 1079 (Ala. 1993)

The Alabama Supreme Court in Cantley interpreted a 1929 warranty deed in an action involving conflicting claims to production royalties from three methane gas wells in a coal degasification field. In a 1924 patent, the United States reserved all the coal underlying the land in question. In a 1929 warranty deed, the grantor (a successor in interest to the United States) reserved "[a]ll mineral reserved to the United States."[81] On a motion for summary judgment, the court held that this language reserved all the minerals that were owned by the grantor at that time, i.e., all the minerals less the coal that had been reserved by the United States. The portion of the reservation "to the United States" was interpreted by the court as "merely an erroneous recitation of the prior reservation."[82] The court held that all mineral rights, other than coal, were clearly reserved by the grantor of the 1929 warranty deed. Thus, by implication, the coalbed methane was reserved by the 1929 warranty deed's grantor.

The *Cantley* court referred to *Vines v. McKenzie Methane Corp.*,[83] in a footnote and stated that it made no judgment as to the possible interests held by other parties because the question of whether a lease of coal rights included the right to explore for and produce coalbed methane was not raised.[84]

viii. *NCNB Texas Nat'l Bank v. West*, 631 So. 2d 212 (Ala. 1993)

In *West*,[85] the appeal arose from a Mobile County Circuit Court decision in which the trial court held that the language granting the coal contained in the chain of title deeds (Deeds) vested ownership of the coalbed methane in the coal owners/lessees (Jim Walters Parties) and not in the gas owners (Trustee Bank). The Alabama Supreme Court affirmed in part, reversed in part and remanded the case for further proceedings.

The Alabama Supreme Court's decision in these cases, as in the lower court, hinged on the interpretation of the reservations and the conveyancing language contained in the Deeds. The Deeds granted the following estate: "all the coal, and mining rights . . .";[86] and reserved the following estate: "all interest . . . other than the above-described interests in coal and mining rights . . . . Grantor specifically reserves all of the oil, gas, petroleum and sulphur . . . ."[87] The Jim Walter Parties maintained that the coalbed gas was granted to them by virtue of the Deeds. Conversely, the Trustee Bank argued that the Deeds reserved the coalbed gas.

The trial court relied heavily upon the legal precedent rendered in *Hoge* and held that the coalbed gas belongs to the coal owner. However, the Alabama Supreme Court reached a different conclusion in part. In determining the intent of the parties to the Deeds, the Supreme Court relied upon general deed construction cases. The Supreme Court agreed with the trial court's analysis that the Deeds were not ambiguous. However, the Supreme Court did not agree that, as a matter of law, a reservation of "all gas" did not include coalbed methane. The court, focusing on the "plain meaning" of the words used in the Deeds and basic principles of property law, held:

> the fact that the coalbed methane gas is produced by, and stored within, coal seams does not require the conclusion that a grant of 'all coal' includes coalbed methane gas, nor does it require the conclusion that a reservation of 'all gas' does not include coalbed methane gas . . . . However, careful analysis of the law of real property indicates that the ownership of coalbed gas depends upon its location at the time the gas is recovered or 'captured,' at which time it is reduced to possession.[88]

The court reasoned that under the rule of capture, gas that migrates from one property to another is subject to recovery and possession by the holder of the gas estate on the property to which the gas migrates.[89] The Supreme Court evaluated the conveyance of coal "as a distinct property [which] also includes that bundle of property rights included within the coal, such as the rights incident and necessary to the recovery of the coal."[90] Thus, the Supreme Court held that the rule evolved to settle disputes between oil and gas owners on separate tracts of land. The court held that this rule was also applicable to coalbed methane gas, a migratory mineral resource.

> Thus, so long as the coalbed gas is bound within the coal seam in which it originated, the holder of the coal estate has the right to extract the gas and reduce it to possession. However, once the coalbed gas migrates out of the stratum in which it originated, the right to recover the gas belongs to the holder of the gas estate (footnote omitted).[91]

As to the venting of coalbed gas for mining purposes, the Supreme Court held, and the Trustee Bank agreed, that "[to the extent that ventilation is required by law, the coal owner will not be liable to the owner

of the gas rights for any waste of methane gas that occurs during ventilation."[92] The court held that the Trustee Bank had no interest in coalbed gas recovered from horizontal or vertical wells drilled directly into coalbeds before the coal is mined. The Trustee Bank does, however, have an interest in coalbed methane gas that migrates out of the coal seams, such as gas collected within the gob zone.

Thus, the court held that:

> absent a clear showing to the contrary, the reservation of all gas includes the right to coalbed methane gas that migrates into other strata from out of the source coal beds where it formed. . . . based on the facts and circumstances of each case, and absent a clear showing . . . to the contrary, the reservation of coalbed methane gas does not include coalbed gas contained within its source coal seam, and that the holder of the coal estate has the right to recover *in situ* such gas as may be found within the coal seam. However, once that gas escapes unrecovered from the coal and migrates into other strata, then the holder of the gas estate has the right to reduce to possession the coalbed methane gas from the other strata. If the coal owner captures and sells gob gasses that have migrated into other strata, the gas owners are entitled to share in any profits on such sales, after taking into account the cost borne by the coal owner in capturing and marketing the gas.[93]

The Alabama Supreme Court affirmed the portion of the trial court's holding that the Jim Walter Parties "have the exclusive right to produce and own coalbed methane gas from horizontal boreholes and vertical degasification wells drilled directly into the source coal seam."[94] The Supreme Court, however, reversed the trial court's holding regarding the right to recover coalbed methane from the gob area above the source coalbed and, instead, held that the Trustee Bank "has the exclusive right to produce and own all the coalbed methane gas that has been, or that will be, produced from gob wells . . . ."[95] The case was remanded to the trial court for further proceedings regarding the determination of factual and legal issues.

ix. *Southern Ute Indian Tribe v. Amoco Production Co.,* 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* 119 F.3d 816 (10th Cir. July 16, 1997)

In 1991, the Southern Ute Indian Tribe (Tribe) sued Amoco Production Company,[96] other oil companies, individual oil and gas lessees and federal defendants in their capacities as trustees for the Tribe, claiming ownership of the coalbed methane underlying approximately 200,000 acres within the Southern Ute Indian Reservation in southwest Colorado. On September 13, 1994, the United States District Court of Colorado held that under the 1909 and 1910 Acts (the "Acts"), which were the source of title to the coal, the reservation of "coal" did not include coalbed methane. The Tribe appealed that decision.[97]

On July 16, 1997, the United States Court of Appeals for the Tenth Circuit reversed the lower court's decision and held that the Tribe, as the successor in interest to the United States' statutory reservation of coal, is the owner of the coalbed methane underlying the subject lands. In reaching its decision, the court analyzed the Acts that were the source of the Tribe's interest. The Acts provided that patents issued for lands belonging to the United States "shall contain a reservation to the United States of all coal in said lands, and the right to prospect for, mine, and remove the same."[98]

In analyzing the Acts, the Court of Appeals utilized various principles of statutory interpretation. It found that the legislative history of the Acts "suggested" that Congress intended to adopt "an interpretation of coal which encompassed both the present and future economic value of coal, including value that could only be realized through advances in technology such as those which drive the present day exploration for CBM."[99] The Court was persuaded by the historical context and legislative history of the Acts that the coalbed methane was reserved to the United States. The Court noted that its decision was also supported by previous interpretations of analogous statutory mineral reservations.

Finally, the Court considered the 1981 Solicitor of the Department of the Interior opinion, *Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits*.[100] The Court found that the Solicitor's opinion was not binding policy because it was not promulgated through the rule-making process nor adjudicated. It was only a "public pronouncement that Interior will not assert the federal government's right to CBM under its reservation of coal" but rather under its oil and gas reservations.[101] The

Court also stated that the case on which the Solicitor relied in support of his conclusion was overruled on appeal and that the opinion was inconsistent with Interior statements made contemporaneously with the Acts. The Court was convinced that the Solicitor's interpretation of the Acts was arbitrary because he did not explain how "Congress could have intended to convey a substance neither known to be valuable nor severable at the time of the enactments," and so omitted potentially determinative factors from his analysis.[102] The *Southern Ute* case was remanded to the trial court to address various issues raised by the defendants.[103] Subsequently, the Tenth Circuit Court of Appeals granted a rehearing en banc (before the full Court). A hearing was held on March 17, 1998, but no decision has been rendered to date.

b. Pending Case

i. *James C. Street v. OXY USA, Inc.*, Case No. 162-90 (Va. Cir. Ct., filed June 29, 1990)

The plaintiffs in *James C. Street v. OXY USA, Inc.*, filed a bill of complaint, in the Circuit Court of Buchanan County, Virginia, requesting a declaratory judgment to determine the rights of the parties to the natural gas and coalbed methane gas in a 458-acre tract. Street alleges that an 1887 deed, to OXY's predecessors in title, did not convey the coalbed methane or the natural gas underlying the 458-acre tract. Thus, Street, as surface owner, contends that title to the natural gas and coalbed methane is vested in him. The coal lessee, Garden Creek Pocahontas Company (Garden Creek), and the coal sublessee, Island Creek Coal Company (Island Creek), were allowed to intervene in the case. Garden Creek alleged that as coal lessee it had the right to: (1) release coalbed methane into the atmosphere as a safety measure in its mining operation; and (2) capture the coalbed methane by virtue of its coal lease on the property.

Subsequently, Garden Creek and Island Creek filed a motion for summary judgment. They have argued that the 1887 deed which conveyed "all the coal and mineral in, upon, and underlying" the 458-acre tract did in fact convey the natural gas to OXY's predecessors in title. In support of their argument, Garden Creek and Island Creek cited the decision in *Warren v. Clinchfield Coal Corp.*[104] The court in *Warren* held that the generic term "minerals," unless otherwise qualified, embraced not only solid minerals but oil and gas as well.[105] As of the time this document was completed, no decision had been reached on the intervenors' motion for summary judgment.

c. Settled Cases

i. *Finite Resources, Ltd. v. Western Fuels-Illinois, Inc.*, No. 93-L-47 (Ill. Cir. Ct., filed July 20, 1993)

In *Finite*, Finite Resources, Ltd. (Finite), filed suit claiming that Brushy Creek Coal Company, Inc. (Brushy Creek), owed it royalties on the coalbed methane gas Brushy Creek was venting for its coal mine operation. Western Fuels-Illinois, Inc. (Western), the coal owner, leased its interest in coalbed methane to Finite. Thereafter, Brushy Creek and Western obtained a permit from the Illinois Department of Mines and Minerals, Division of Oil and Gas for the venting of methane gas.[106] Finite claimed that Western and Brushy Creek were in violation of the coalbed methane gas lease terms and claimed the following damages:
(1) damages in excess of $250,000.00 for Western's failure to plug the Henk No. 1 well; (2) damages in excess of $250,000.00 for Western's alleged coalbed methane waste; and (3) damages in excess of $250,000.00 for Brushy Creek's alleged coalbed methane gas waste.[107]

Brushy Creek and Western filed a countersuit claiming that Finite breached the development covenants of the coalbed methane lease and asked the court to declare the lease terminated.[108] Brushy Creek and Western sought damages in the amount of $200,000.00.[109] Brushy Creek and Western claimed that since Finite did not develop the land as required in the coalbed methane lease, methane levels in the mine increased, and the mine was evacuated.[110] The damages included the claimed costs of drilling the methane ventilation well and loss of income from coal mining operations.[111] Other issues raised by Brushy Creek and Western involved Finite's royalty payments, rights to wells drilled prior to the lease and rental of these well sites.[112] This case was settled by the parties before trial. Therefore, the issues were never decided by the court.

ii. *Pinnacle Petroleum Co. v. Jim Walter Resources, Inc.*, No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment)

In *Pinnacle*, Pinnacle Petroleum Company (Pinnacle) derived its interest in the oil and gas underlying the property in dispute through a printed form oil and gas lease dated August 31, 1978, from E.L. Hendrix

and wife, to Alabama Basic Land Enterprises, Inc. Typewritten onto the first page of the Hendrix lease was the statement: "this lease does not include coal."[113]

Jim Walter Resources, Inc. (Jim Walter) derived its interest in the coal through a lease dated December 6, 1984, from The First National Bank of Tuscaloosa, Trustee, to the United States Pipe and Foundry Company. The coal lease referenced the Hendrix oil and gas lease and indicated that the coal lessee could remove and dispose of the coal seam gas subject to any right of the oil and gas lessee or its assignees.[114] The coal lease also made specific provisions for the removal of coal seam gas and royalty payments should the coal seam gas be sold.[115]

Pinnacle's arguments for partial summary judgment were (1) that its gas lease covered coalbed methane because methane is technically a "gas";[116] and (2) that after extraction of the coal is completed, the mined area reverts to the grantor.[117] Since a gob well produces methane only after mining occurs, this is a post mining method of extraction, and the methane should revert to the coal lessor.[118] Jim Walter relied primarily on the *Hoge* and *Rayburn* decisions in arguing that the coalbed methane was owned by the coal estate as a result of: (1) the characteristics of coalbed methane; (2) the history of coalbed methane production; (3) the acknowledged right to remove the coal included the incidental right to remove the coalbed methane; and, (4) the conveyancing instruments revealed the intent of the parties as to the coalbed methane ownership and development.[119]

In its July 28, 1989 order, the court held that Jim Walter, as the coal lessee, had the exclusive right to produce coalbed gas from the property that was the subject of the lawsuit.[120] The action remained on the docket to settle factual disputes about whether any of the gas produced by Jim Walters was gas other than coalbed methane.[121] However, since that time, the case was dismissed with prejudice pursuant to a stipulation by the parties.

V. Ownership Claims to Storage Container Space

If the property that will be utilized for storage is a fee property (surface and no mineral severances -- all property rights are together in one bundle), there are no specific or problematic issues involved in acquiring storage rights.[122] However, complications may arise as the result of concurrent and future interests.[123] For example, the bundle of

property rights may be separated into: (1) surface ownership; (2) coal ownership; (3) gas ownership; (4) oil ownership; and/or (5) residual mineral ownership (minerals other than coal, oil, and gas). Each of these ownership interests may have been leased to companies for development. The lessees of the mineral estates can then create additional burdens upon the leasehold -- overriding royalties, production payments, working interests, joint venture agreements, and farmouts, etc. Furthermore, the ownership interests themselves may be varied: (1) life estates; (2) remainders; (3) possibilities of reverter or reversion; etc.

a. Coal Owner

A few jurisdictions have held that the mineral owner is the owner of the container space.[124] However, at least one jurisdiction has significantly limited the application of such a rule of law.[125] In one recent case, use of the container space was contingent upon the fact that the mine was not exhausted or abandoned.[126]

b. Surface Owner

The majority of jurisdictions hold that the surface owner, not the mineral owner, owns the container space once the mineral occupying the space has been depleted and mining (or production) of the mineral is abandoned.[127]

In West Virginia, the matter of ownership of container space of abandoned coal mines may be controlled by *Tate v. United Fuel Gas Co.*,[128] where the Supreme Court of West Virginia held that the owners of certain minerals did not have the right to use the limestone strata for container space by virtue of such ownership where there were no recoverable minerals remaining.[129] Specifically, in that case, the fee simple of a tract of land was severed when the grantor conveyed the tract to plaintiff's predecessor in interest (Surface and Coal Owner). The deed contained the following exception:

> The oil, gas and brine and all minerals, except coal, underlying the surface of the land hereby conveyed are expressly excepted and reserved from the operation of this deed, together with the exclusive right to drill and mine thereon for the production and removal of the oil and gas and other minerals hereby excepted and reserved and rights of way over and across said premises to the place or places of drilling and mining. . .

* * *

> it being understood that the term "mineral" as used herein does not include clay, sand, stone or surface minerals except such as may be necessary for the operation for the oil and gas and other minerals reserved and excepted herein.[130]

Defendant United Fuel Gas Company leased the tract from the individuals who owned the oil, gas and other minerals (Oil, Gas and Mineral Owners). In addition, United Fuel Gas Company entered into a gas storage agreement with the Oil, Gas and Mineral Owners whereby United Fuel was entitled to use and occupy the Big Lime stratum underlying the tract for the purpose of injecting and storing gas therefrom. Construing the terms of the exception in the original grant, the Court held that the oil, gas and brine were excepted from the conveyance to the Surface and Coal Owner. Furthermore, minerals were excepted as well as sufficient clay, sand, stone and surface minerals necessary for mining and drilling operations, but other clay, sand, stone or surface minerals were not excepted.[131]

The Oil, Gas and Mineral Owners contended that once certain space was vacated by the production of gas in the Big Lime stratum, they owned such space and had the right to exclusive use thereof. The Court noted that there were decisions from other jurisdictions finding that the space may be used by the owner of the minerals so long as there remained recoverable minerals. But in this case, the Court explained, there was no recoverable mineral in the Big Lime Stratum. Accordingly, if any such space existed, the Oil, Gas and Mineral Owners would not be the owners of the space.[132]

In reviewing the intention of the parties, the Court found that the exception made in the original deed was for the purpose of mining and operating the land for the production of minerals. However, the Oil, Gas and Mineral Owners desired to utilize their ownership rights for a different purpose, i.e., the storage of gas produced elsewhere. Therefore, the Surface and Coal Owner owned the clay, sand, and stone within and underlying the surface of land in question, subject to the rights of the Oil, Gas and Mineral Owners to use such clay, sand, stone or surface minerals in the conduct of mining and drilling operation.[133]

Because the Court in *Tate* found that the ownership rights of the Oil, Gas and Mineral Owners were limited to mining rights which did not include storage rights, the Court's rationale may mean that ownership of the container space reverts to the surface owner, after the minerals have been removed in cases where the minerals have been severed from the surface.

One issue not addressed in *Tate* is when the mineral is considered to be exhausted or no longer recoverable. With regard to coal, is it exhausted once all the coal that may be economically mined is removed? Additionally, what happens if the mine is abandoned, but there are still recoverable reserves? What if new techniques are discovered that provide a means for recovering coal previously thought to be unrecoverable?

The Court in *Tate* analyzed the issue by looking at the language of the exception and the intention of the parties. The Court did not announce a general rule. Therefore, it is important to consider the specific conveyancing language and the intention of the parties to determine who owns the container space.

VI. Coalbed Methane Regulatory Environment

a. Public Policy

The West Virginia Coalbed Methane Wells and Units Article of the Environmental Resources Act (the "WV ACT")[134] statutes concerning coalbed methane gas were promulgated to facilitate coalbed methane development by creating workable solutions to the issues arising from competing or conflicting ownership claims. The WV ACT includes: (a) commitments for venting of coalbed mines; (b) provisions to ensure safe recovery of coalbed methane, while preserving the mineability of coal seams; and, (c) provisions for preventing waste and maximizing recovery. [135] There is strong coal protective language in the WV ACT. The WV ACT includes requirements for coalbed methane ventilation, future and current safe coal mining and maximization of recovery.

The policies of the WV ACT contain strong language promoting the interest and preservation of the coal mining industry. The WV ACT states that: (1) coal value is "far greater" than that of coalbed methane; (2) coalbed methane development must protect and preserve the coal while providing for maximum coal recovery; and, (3) the fullest practical recovery of both coal and coalbed methane should be encouraged. [136] The overall public policy is to: (1) preserve coal seams for future safe mining; (2) encourage commercial coalbed methane development without adversely affecting mining safety and coal seam mineability; (3) safeguard and protect the correlative rights of coalbed methane well operators and royalty owners in a pool; (4) safeguard mineability of coal during coalbed methane removal; (5) create a state permitting procedure and authority to provide for and facilitate coalbed methane development as encouraged by EPACT; and, (6) remove itself from the affected state list. [137] Thus, the WV ACT limits coalbed methane development to situations in which development will protect and preserve safe coal mining and maximize coal recovery.

b. Implementation

The WV ACT is administered by the Chief of the Office of Oil and Gas of the Division of Environmental Protection (hereinafter the "Chief") and the West Virginia Coalbed Methane Review Board (hereinafter the "Review Board").[138]

c. Definitions

The WV ACT defines "coalbed methane" as a "gas which can be produced from a coal seam, the rock or other strata in communication with a coal seam, a mined-out area or a gob well." [139] Definitions for mined-out areas and gob wells are also included in the WV ACT.[140]

The WV ACT includes a broad definition for "coal seam." [141] The inclusion of workable and unworkable coal seams and the noncoal roof and floor of the seams affords considerable protection of mines and coal mine safety. West Virginia's defines a "'[w]orkable coal bed' or 'workable coal seam' as any seam of coal twenty inches or more in thickness, or any seam of less thickness which is being commercially mined or can be shown to be commercially mined."[142]

d. Spacing

The WV ACT mandates spacing requirements between coalbed methane wells and between the coalbed methane well and the surrounding property lines. The WV ACT offers specific distance requirements. West Virginia sets the spacing distance between coalbed methane wells at 1,600 feet.[143] The WV ACT does not provide for a reduction of the spacing requirement for coalbed methane gob wells (hereinafter "gob wells"). West Virginia requires a distance of 100 feet from the outside boundary of the coal tract from which the coalbed methane is or will be produced. The WV ACT does not distinguish between coalbed methane wells and gob wells.[144]

West Virginia's statutory scheme also provides a mechanism to modify the statutory spacing. The WV ACT states that spacing shall be determined by a pooling order, a special field rules order or any Review Board order.[145]

e. Drilling Permit

The WV ACT provides that operators must apply for and obtain drilling permits or approval prior to the commencement of drilling coalbed methane wells. [146] The WV ACT provides specific guidelines for permit applications. The Chief shall deny the permit if the applicant has substantially violated a previously issued permit or one or more of the rules promulgated in the WV ACT; and, the applicant has failed to abate or seek review of the violation. [147] In addition, the Chief may not issue a permit until the applicant has filed a

consent to stimulate. [148] No permit will be issued unless a bond is furnished as provided in the WV ACT.[149]

f. Consents to Stimulate

West Virginia provides an exception and/or alternative method for the consent provision. In the WV ACT, a coalbed methane well permit may not be issued until a consent and agreement is filed with the Chief for each owner and operator of a workable coal seam twenty-eight inches (28") or more in thickness which is within 750 horizontal feet of the proposed well bore that the applicant proposes to stimulate or is within 100 vertical feet above or below a coal seam that the applicant proposes to stimulate.[150] The WV ACT recognizes contractual rights or obligations arising out of a contract or lease between the applicant and any coal owner or operator. The existence of such contract or lease constitutes a waiver of the requirement to file an additional signed consent and agreement. The WV ACT does not, however, provide that the contract or lease be in existence prior to its enactment. It does set forth certain criteria for the consent.[151]

The WV ACT also provides for an alternate method when a coal operator refuses to grant a consent to stimulate. Under the WV ACT, an applicant may submit a request for a hearing before the Board of Review and file an affidavit. The criteria for the Review Board's determination regarding coal seam stimulation is set forth in the WV ACT. The WV ACT also places further conditions on the Review Board's authorization to stimulate.[152]

g. Spacing or Drilling Units

The WV ACT provides that an application for a drilling unit may accompany the well permit application. [153] The application may also be filed as a supplement to the permit application and must contain specific information. [154] The WV ACT requires that all potential owners of coalbed methane receive notice and it requires a Review Board hearing prior to the establishment of a drilling unit. [155] The WV ACT's provisions for the establishment of a drilling unit and a pooling order appear to be a simultaneous process. West Virginia also requires that the Review Board set a time and place for a conference prior to the informal hearing.[156] The conference includes all coalbed methane owners or claimants identified in the application that have not entered into a voluntary agreement. At the conference, all parties are given the opportunity to enter into voluntary agreements for unit development. The Review Board may not issue a unit order unless the applicant submits a verified statement setting forth the conference results. In addition, if an agreement is reached at the conference, the Review Board shall find that the unit is a voluntary unit and issue an order consistent with such findings. [157] Thus, a drilling unit may be established separately from the pooling process; however, it appears that the unit must be a voluntary one.

Under the WV ACT, the request for a unit hearing may be made by the applicant or by a coal owner or operator. [158] The WV ACT dictates criteria for the Review Board to consider in making determinations about the establishment of drilling units. [159] After considering the evidence, comments and objections presented at the hearing, the Review Board shall: (1) enter an order denying the establishment of the unit; or, (2) enter a "pooling order" establishing the drilling unit. The "pooling order" shall: (1) establish the unit boundary; (2) authorize the drilling, operation and production of coalbed methane well(s) from the pooled acreage; (3) establish the minimum distances for any wells in the unit and for other wells which would drain the pooled acreage; (4) designate the well(s) and unit operator; (5) establish a reasonable operator's fee for operating costs, which shall include routine well maintenance and all accounting to pay all expenses, royalties and amounts due working interest owners; and, (6) such other findings and provisions as are appropriate. [160] All well operations within a drilling unit for which a pooling order has been entered, are deemed to be operations on each separately owned tract, or portion thereof, within the unit.[161]

h. Pooling

The West Virginia act provides for the pooling of interests in a drilling unit. [162] As noted previously, under the WV ACT, the establishment of a drilling unit and a pooling order appear to be a simultaneous process. There are, however, provisions that appear to apply only to the pooling of interests. [163]

i. Escrow

The establishment of escrow accounts for competing ownership claims is mandated. The WV ACT provides that pooling orders establish an escrow account into which the conflicting claimants' costs and proceeds are deposited and held. [164] Under the WV ACT, each participating working interest owner (“PWIO”), except for the operator, deposits its proportionate share of costs in the escrow account. The WV ACT also directs that all proceeds attributable to the conflicting interests of any coalbed methane owners that are leased, or deemed to be leased, are deposited into the escrow account. In addition, all proceeds in excess of ongoing operational expenses, as allowed in the pooling order, attributable to the conflicting interests are also deposited in the escrow account.[165] The WV ACT requires that once coalbed methane ownership is judicially or voluntarily determined, the Review Board issues a revised division order distributing all amounts from the escrow account to the legally entitled owner(s).[166]

j. Plugging

The WV ACT provides that, in certain cases, coalbed methane well operators must plug their wells to provide for safe mining through any affected coal seam. [167] West Virginia provides that a coalbed methane well must be plugged in such a manner as to allow safe mining through by a coal owner or operator. [168] The WV ACT also imposes a time limitation on the plugging requirement. Whenever a coalbed methane well is located in a coal seam that will be mined within six (6) months, the well operator shall, within sixty (60) days after notice from the coal owner/operator, plug the well.[169]

VII. Underground Gas Storage Reservoirs in West Virginia

Underground gas storage reservoirs in West Virginia are regulated by the Office of Oil and Gas under the supervision of the Director of the Division of Environmental Protection. [170] There are statutory provisions imposing certain obligations upon the operators of underground gas storage reservoirs. [171] Although these provisions do not specifically mention coalbed methane, they appear to apply to coalbed methane. [172]

a. Definitions

The term "gas" is defined as any gaseous substance. [173] "Storage reservoir" means that portion of any subterranean sand or rock stratum or strata into which gas is or may be injected for the purpose of storage or for the purpose of testing whether said stratum is suitable for storage. [174] The "reservoir protective area" means all that area outside of the storage reservoir boundary but within two thousand linear feet thereof.[175]

"Coal mine" is defined as those operations in a coal seam which include the excavated and abandoned portions as well as the places actually being worked. The term includes all underground workings and shafts, slopes, tunnels, and other ways and openings and all such shafts, slopes, tunnels and other openings in the course of being sunk or driven, together with all roads and facilities connected with them below the surface. [176]

An "operating coal mine" is a mine which is producing coal or has been in production at any time during the preceding twelve months including any worked out or abandoned coal mine connected underground with or contiguous to such operating coal mine.[177] No definition is given for "contiguous to" in the context of this Act. According to the Office of Oil and Gas, it would look at whether there was mining taking place in the same seam in a different section. It would also depend on the geological structures and how safety might be affected.[178] However, because these provisions do not specifically

address storage in an abandoned coal mine, the Office of Oil and Gas indicated that some of the provisions of this Act may not necessarily apply to storage in an abandoned mine. Therefore, an entity considering storage in a particular abandoned mine would need to consult with the Office of Oil and Gas to address any issues the Office of Oil and Gas might raise.[179] For example, the main issues would include environmental protection particularly with regard to water sources and safety. The Office of Oil and Gas explained that it would work with an entity considering storage in an abandoned coal mine to address and resolve those issues, rather than try to follow specific statutory provisions that may not necessarily be applicable to storage in an abandoned coal mine.[180]

b. Obligations of Underground Gas Storage Reservoir Operators

Any person who is injecting gas into or storing gas in a storage reservoir which underlies or is within three thousand linear feet of an operating coal mine that is operating in a coal seam extending over the reservoir or the reservoir protective area must file with the Division a copy of a map satisfying the requirements of the statutory provisions and certain data within sixty days. [181] If the storage reservoir is not within three thousand linear feet, but less than ten thousand linear feet from an operating coal mine which is operating in a coal seam that extends over the storage reservoir or the reservoir protective area, the operator must also file with the Division a copy of a map and certain data within the time fixed by the Division. In addition, certain information must be provided regarding all oil or gas wells which have been drilled into or through the storage stratum within the reservoir or within three thousand linear feet thereof, including information regarding additional wells that are to be drilled.[182]

Any person who is injecting gas into or storing gas in any other storage reservoir not included in the above paragraph must file with the division a map and other information not less than within six months prior to starting of actual injection or storage.[183]

Certain obligations are imposed upon operators of storage reservoirs underlying or within two thousand linear feet of an operating coal mine including discovering wells, and plugging or reconditioning wells.[184]

c. Obligations of Mine Operator

Any person owning or operating a coal mine must file a map with the Division. If any person owning or operating any coal mine which comes within ten thousand linear feet of a storage reservoir and where the coal seam being operated extends over the storage reservoir or the protective area, the operator or owner shall file with the Division a map showing certain specified information. [185]

VIII. Agencies Having Jurisdiction Over Storage of Coalbed Methane

In West Virginia, the Office of Oil and Gas, under the supervision of the Division of Environmental Quality, has jurisdiction over gas storage wells, coalbed methane production wells, underground gas storage reservoirs, and the conversion of vertical ventilation holes to wells. [186] With regard to storage of coalbed methane in abandoned mines, the Office of Mining, under the supervision of the Division of Environmental Quality, may also have jurisdiction. [187]

The Public Service Commission of West Virginia has jurisdiction over the issuance of certificates of public necessity and setting of rates for a public utility's intrastate transportation of gas by pipeline. [188] Because none of the gas storage facilities in West Virginia are considered by the Public Service Commission to be public utilities, the Commission does not require certificates from those operators or set their rates. [189] However, the Federal Energy Regulatory Commission does issue certificates of necessity and set the rates for the transportation and sale of natural gas in interstate commerce. [190] The Public Service Commission of West Virginia has also been empowered to prescribe and enforce safety standards for all intrastate and interstate pipeline facilities and to regulate safety practices of persons engaged in the transportation of gas. "Transportation of gas" is defined as the "gathering, transmission or distribution of gas by pipeline or its storage." [191]

IX. History of Gas Storage in West Virginia

The Office of Oil and Gas is not aware of any storage fields in which coalbed methane is stored.[192] There are numerous conventional gas storage fields in West Virginia. According to a survey conducted by the American Gas Association[193], the following are included:

a. CNG Transmission Corporation

(1) Bridgeport, Depleted Reservoir
(2) Fink-Kenedy-Lost Creek, Depleted Reservoir
(3) Racket-Newberne, Depleted Reservoir

b. Cabot Oil and Gas Corporation

(1) Raleigh
(2) X-1 Heizer

c. Columbia Gas Transmission Corporation

(1) Browns Creek, Depleted Reservoir
(2) Cleveland, Depleted Reservoir
(3) Coco “A”, Depleted Reservoir
(4) Coco “B”, Depleted Reservoir
(5) Coco “C”, Depleted Reservoir
(6) Derricks Creek, Depleted Reservoir
(7) Glady, Depleted Reservoir
(8) Grapevine “A”, Depleted Reservoir
(9) Grapevine “B”, Depleted Reservoir
(10) Hunt, Depleted Reservoir
(11) Lake, Depleted Reservoir
(12) Lanham, Depleted Reservoir
(13) Ripley, Depleted Reservoir
(14) Rockport, Depleted Reservoir
(15) Sissonville, Depleted Reservoir
(16) Terra Alta, Depleted Reservoir
(17) Terra Alta South, Depleted Reservoir
(18) Victory “A”, Depleted Reservoir
(19) Victory “B”, Depleted Reservoir

d. Equitrans Incorporated

(1) Comet, Depleted Reservoir
(2) Hayes, Depleted Reservoir
(3) Logansport, Depleted Reservoir
(4) Maple Lake, Depleted Reservoir
(5) Mobley, Depleted Reservoir
(6) Rhodes, Depleted Reservoir
(7) Shirley, Depleted Reservoir
(8) Skin Creek, Depleted Reservoir

e. Hampshire Gas Company

(1) Augusta, Depleted Reservoir
(2) Little Capon, Depleted Reservoir

XI. Conclusion

This report did not attempt to undertake an in-depth analysis of all the issues related to coalbed gas storage in abandoned coal mines in West Virginia. Rather, it attempts to generally survey the statutes, regulations, and cases related to coalbed methane ownership issues, container space ownership issues, and gas storage issues in West Virginia.

In considering the storage of coalbed methane in abandoned coal mines in West Virginia, there are several major issues that should be addressed. With regard to ownership of the storage space, these issues include: (1) who owns the abandoned mine and the container space that remains after the mineral has been depleted?; and (2) if ownership depends upon the mineral being depleted or no longer recoverable, when is the mineral actually no longer recoverable, and who makes this determination? As noted in Section V, Ownership Claims to Storage Container Space, many questions related to these issues are yet to be answered. Precedents have not been established in West Virginia in the area of gas storage, particularly in abandoned coal mines. It does appear, however, that West Virginia follows the general rule that the container space reverts to the surface owner once the mineral is no longer recoverable. [194] This, of course, can be a very fact specific determination. The conveyancing language of relevant deeds and leases, intent of the parties, and surrounding circumstances must be considered in making this determination. Furthermore, West Virginia has not addressed many questions such as when the mineral becomes no longer recoverable, what happens if the mine is abandoned and there is still recoverable coal, or what happens if new techniques are discovered providing a means for recovering coal previously thought unrecoverable.

In addition to issues related to ownership of the storage space, an entity considering storage of coalbed methane in abandoned coal mines in West Virginia must also address questions related to ownership of the coalbed methane already present in the mine that will be used as cushion gas, or how injection of gas into the mine will affect ownership of the coalbed methane already present. Also, questions may arise regarding how coalbed methane in the mine will affect ownership of the storage space. There are no decided cases in West Virginia regarding ownership of coalbed methane. As discussed in Section IV, Coalbed Methane Case Decisions, the courts that have decided ownership issues have reached varying results as to whether the coalbed methane belongs to the coal or gas owner. Therefore, the resolution of any questions that arise concerning ownership of the coalbed methane already present in the mine is uncertain due to the lack of precedent in West Virginia or consensus from a majority of jurisdictions.

Other considerations involved in storage of coalbed methane in abandoned mines in West Virginia include which regulatory bodies will claim to have jurisdiction over the operations. The West Virginia Office of Oil and Gas, under the Supervision of the Division of Environmental Protection, regulates production of coalbed methane and underground storage facilities. Accordingly, the Office of Oil and Gas will have jurisdiction over any storage operations. Furthermore, an entity considering storage of coalbed methane in abandoned mines should consult with the West Virginia Office of Mining, also under the supervision of the Division of

Environmental Protection. Additionally, the Public Service Commission of West Virginia and the Federal Regulatory Energy Commission have jurisdiction over certain storage and pipeline facilities. Thus, all of the previously mentioned regulatory bodies should be involved in planning an operation for storage of coalbed methane in an abandoned coal mine in West Virginia.

ENDNOTES

1. *Southern Ute Indian Tribe v. Amoco Prod. Co.*, 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* 119 F.3d 816 (10th Cir. 1997) ; *see also* J. Thomas Lane, *Fire in the Hole to Longwall Shears: Old Law Applied to New Technology and Other Longwall Mining Issues*, 96 W. VA. L. REV. 577, 621 (1994).

2. *See infra* notes 22-23 and accompanying text.

3. Richard A. Schraufnagel et al., *Coalbed Methane Development Faces Technology Gaps*, OIL & GAS J., Feb. 5, 1990, at 48.

4. *Id.*

5. Matt Benson, *VOGA's Work Reaps Success Within Political Arena*, AM. OIL & GAS REP., Aug. 1994, at 127.

6. Stephen D. Ban, GAS RESEARCH INST., EXECUTIVE RESEARCH LETTER (Feb. 1993).

7. *Id.*; Benson, *supra* note 5.

8. Scott H. Stevens, et al., *Technology Spurs Growth of U.S. Coalbed Methane*, OIL & GAS J. Jan. 1, 1996, at 57.

9. 11 GAS RESEARCH INSTITUTE, QUARTERLY REVIEW OF METHANE FROM COAL SEAMS TECHNOLOGY No. 1 at 2 (David G. Hill ed., Aug. 1993) [hereinafter QUARTERLY REVIEW NO. 11]; *see also* Benson, *supra* note 5.

10. Stevens, *supra* note 8 at 56.

11. *Id.* at 57.

12. Telephone interview with Richard A. Schraufnagel, Gas Research Institute (Sept., 1997).

13. Telephone interview with Mike Lewis, Assistant Chief, Office of West Virginia Oil and Gas (Jan., 1998).

14. *Id.*

15. *Id.*

16. Paul C. Lyons, *Coalbed Methane Potential in the Appalachian states of Pennsylvania, West Virginia, Maryland, Ohio, Virginia, Kentucky and Tennessee*, United States Geological Survey, Department of the Interior, Open File Report 96-735.

17. Telephone interview with Mike Lewis, Assistant Chief, Office of Oil and Gas (Jan., 1998).

18. Telephone interview with David Matchen, West Virginia Geological Survey (March, 1998).

19. Paul C. Lyons, *supra* note 16.

20. James P. Holland, *Underground Storage of Natural Gas: A Legal Overview*, 3 EASTERN MIN. L. INST. 19-1 at 19-4 (1982).

21. *Id.*

22. *See* Section V, Ownership Claims to Storage Container Space, for the discussion of this issue.

23. *See Southern Ute Indian Tribe v. Amoco Production Co.*, 874 F. Supp. 1142 (D. Colo. 1995) (basing its decision, in part, on legislative intent) *rev'd* 119 F.3d 816 (10th Cir. 1997); *Combs v. Hounshell*, 347 S.W.2d 550, 552 (Ky. 1961) (finding that the goal of deed construction is to effect the intent of the parties as that intent can be gathered from all of the provisions of the deed); *Conner v. Hendrix*, 72 S.E.2d 259, 265 (Va. 1952) (finding that the provisions are to be viewed as a whole, with effect and meaning being accorded to every word used in the instrument, if possible); *Horne v. Horne*, 26 S.E.2d 80, 84 (Va. 1943) (holding that intent is to be gathered from the language used throughout the instrument); *Ward v. Baylor*, 153 S.E. 894, 896 (Va. 1930) (finding that in interpreting an instrument, a court will generally attempt to determine the purpose and intent of the grantor); *James River & Kanawha Power Co. v. Old Dominion Iron & Steel Corp.*, 122 S.E. 344, 349 (Va. 1924) (finding intent of the deed is to be gathered from the deed as a whole); *see also* 30 U.S.C. §§ 181-287 (1994) (originally enacted as the Mineral Leasing Act of 1920, ch. 85, 41 Stat. 437); 30 U.S.C. §§ 541-541(I) (1994) (originally enacted as the Uraniferous Lignite Act of 1955, ch. 795, 69 Stat. 679); 43 U.S.C. § 299 (1994) (originally enacted as the Stock-Raising Homestead Act of 1916, ch. 9, 39 Stat. 862); 30 U.S.C. § 81 (1994) (originally enacted as Act of Mar. 3, 1909, ch. 270, 35 Stat. 844); 30 U.S.C. §§ 121-123 (1994) (originally enacted as Act of July 17, 1914, ch. 142, 38 Stat. 509); 30 U.S.C. §§ 83-85 (1994) (originally enacted as the Coal Lands Act of 1910, ch. 318, 36 Stat. 583); Act of June 15, 1880, ch. 223, 21 Stat. 199.

24. *Id.* A court cannot consider intent of the parties unless it determines that an ambiguity in the language exists. *See* J. Maddox' dissenting opinion in *Cantley v. Hubbard*, 623 So. 2d 1079, 1082 (Ala. 1993).

25. "Coal" is defined under the Bureau of Indian Affairs, Department of the Interior, the agency charged with governing certain mineral regulations, as "*combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite* by A.S.T.M. designation O-388-666." Amoco Production Company's Brief in Support of its Motion for Summary Judgment on the Class Action Claim and the Class Action Defenses at 13, *Southern Ute Indian Tribe v. Amoco Prod. Co.*, No. 91-B02273 (D. Colo. filed Dec. 31, 1991) [hereinafter *Amoco's Brief in Support*]. The Dictionary of Mining, Mineral and Related Terms defines "coal" as:

> *A solid, brittle, more or less distinctly stratified, combustible carbonaceous rock*, formed by partial to complete decomposition of vegetation . . . not fusible without decomposition and very insoluble. The boundary line between peat and coal is hazy . . . as is the boundary line between coal and graphite and the boundary line between carbonaceous rock and coal . . . .

Id. at 108 (citing the DICTIONARY OF MINING, MINERAL AND RELATED TERMS 222 (1969)) (emphasis added).

Webster's Dictionary defines the term "coal" as follows:

> *[A] black or brownish black solid combustible mineral* substance formed by the partial decomposition of vegetable matter without free access of air and under the influence of moisture and in many cases increased pressure and temperature, the substance being widely used as a natural fuel and containing carbon, hydrogen, oxygen, nitrogen, and sulfur as well as inorganic constituents that

are left behind as ash after burning . . . .

Id. at 108-09 (citing WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 432 (1976)) (emphasis added).

26. "Gas" has been defined as "[t]he aeriform fluid, having neither independent shape nor volume, but tending to expand indefinitely." *Amoco's Brief in Support, supra* note 25, at 111 (citing A GLOSSARY OF THE MINING AND MINERAL INDUSTRY 295 (1920)). The agency charged with governing certain mineral regulations, the Minerals Management Service, Department of the Interior, defines gas as: "[A]ny fluid, either combustible or noncombustible, which is extracted from a reservoir and which has neither independent shape nor volume, but tends to expand indefinitely; a substance that exists in a gaseous or rarified state under standard temperature and pressure conditions." *Id.* (Citing 43 C.F.R. § 3000.0-5 (1992); *accord* 30 C.F.R. §§ 206.151, 216.6(I) (1992)).

Another definition of gas is "a fluid (as air) that has neither independent shape nor volume but tends to expand indefinitely . . . ." *Amoco's Brief in Support, supra* note 25, at 112 (citing WEBSTER'S NEW THIRD INTERNATIONAL DICTIONARY 937 (1976)).

27. Paul N. Bowles, *Coalbed Gas: Present Status of Ownership Issue and Other Legal Considerations*, 1 E. MIN. L. INST. 7 (1980).

28. *See Rayburn v. USX Corp*., No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 (N.D. Ala. 1987) (memorandum opinion and order), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988); *Cantley v. Hubbard*, 623 So. 2d 1079 (Ala. 1993); *Vines v. McKenzie Methane Corp*., 619 So. 2d 1305 (Ala. 1993); *Pinnacle Petroleum Co. v. Jim Walter Resources, Inc.*, No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment); *Carbon County v. Baird*, No. DV 90-120, 1992 WL 464786, at *9 (Mont. Dist. Ct. Dec. 15, 1992), *reversed sub nom. Carbon County v. Union Reserve Coal Co*., 898 P.2d 680 (Mont. 1995); *United States Steel Corp. v. Hoge*, 468 A.2d 1380 (Pa. 1983)*; Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation*, (M-36970), 98 I.D. 59 (1990); *Ownership of and Right to Extract Coalbed Gas in Federal Coal Deposits*, (M-35935), 88 I.D. 538 (1981).

29. *Amoco's Brief in Support, supra* note 25 at 108-09; *see also Skelly Oil Co. v. Savage*, 447 P.2d 395, 402 (Kan. 1968) (finding that liquids produced from a well are associated with the gas and such liquids are produced along with the gas; the gas cannot be produced without carrying with it the associated liquids); *Blocker v. Christie*, 340 S.W.2d 320, 321 (Tex. Civ. App. 1960) (finding that the evidence showed that the liquids involved look like oil, taste like oil, smell like oil and are stored and sold like oil; when the gas leaves the well head it is gaseous, and is also gaseous as it existed in the well).

30. Bowles, *supra* note 27, at 7-12.

31. *Amoco's Brief in Support, supra* note 25, at 108-09.

32. See discussion regarding ownership of the storage container space in Section V.

33. Bowles, *supra* note 27, at 7-12. The "surface" owner claim to coalbed methane would not be applicable in cases where only the surface was granted to the owner. It would, however, be applicable in situations where the coal, oil, and gas had been conveyed, but the other ("residual") minerals were owned by the "surface owner."

34. Jeff L. Lewin, *Coalbed Methane: Recent Court Decisions Leave Ownership "Up in the Air," but new Federal and State Legislation Should Facilitate Production*, 96 W.Va. L.Rev. 631 (Spring, 1994); *see also NCNB*

Texas Nat'l Bank v. West, *infra* note 84.

35. Jeff L. Lewin, *supra* note 34.

36. *Id.*

37. *Amoco's Brief in Support*, *supra* note 25 at 57-62.

38. *United States Steel Corp. v. Hoge*, 468 A.2d 1380, 1382 (Pa. 1983).

39. *Id.*

40. *Id.* at 1384.

41. *Id.* at 1385.

42. *Rayburn v. USX Corp.*, No. 85-G-2661-W, 1987 U.S. Dist. LEXIS 6920 at *5 (N.D. Ala. 1987).

43. *Id.* at *2 (emphasis added).

44. *Id.* at *8-*9.

45. *Rights to Coalbed Methane Under an Oil & Gas Lease for Lands in the Jicarilla Apache Reservation*, No. M-36970, 98 I.D. 59, 61-62 (1990).

46. *Id.* at 62-63.

47. *Id*. at 63.

48. *Id.* at 63-64.

49. *Carbon County v. Baird*, No. DV 90-120, 1992 WL 464786, slip op. at 4 (Findings of Fact).

50. *Id.*

51. *Id.* at 5.

52. *Id.* at 7.

53. *Id.* at 8.

54. *Id.* at 10.

55. *Id.*

56. 468 A.2d 1380 (Pa. 1983).

57. Civ. No. 85-G-2661-W (N.D. Ala. July 28, 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988).

58. No. CV-87-3012 (Ala. Cir. Ct. July 29, 1989).

59. Memorandum at 23, *Carbon County* (No. DV 90-120).

60. *Carbon County*, No. DV-90-120, slip op. at 4 (Final Judgment and Decree).

61. *Id.* at 5-6.

62. *Id.* at 7.

63. *Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995).

64. *Id.* at 686.

65. *Id.*

66. *Id.* at 687.

67. *Id.*

68. *Id.*

69. *Id.* at 688.

70. *Id.* at 689.

71. *Id.* at 688.

72. *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305, 1306 (Ala. 1993).

73. *Id.*

74. *Id.* at 1307.

75. 468 A.2d 1380 (Pa. 1983).

76. Civ. No. 85-G-2661-W (N.D. Ala. July 28, 1987), *aff'd without opinion*, 844 F.2d 796 (11th Cir. 1988).

77. No. DV 90-120, 1992 WL 464786 (Mont. Dist. Ct. Dec. 14, 1992), *rev'd sub nom. Carbon County v. Union Reserve Coal Co.*, 898 P.2d 680 (Mont. 1995).

78. *Vines*, 619 So. 2d at 1308.

79. *Id.* at 1308-09. *See generally Carter Oil Co. v. Blair*, 57 So. 2d 64 (Ala. 1952).

80. *Vines*, 619 So. 2d at 1309. Two of the justices rendered a dissenting opinion, contending that the Deeds were ambiguous. Thus, the dissent concluded that the trial courts erred in holding, as a matter of law, that the parties to the Deeds could have contemplated the conveyance of coalbed methane gas, which was of no commercial value at the time

of the Deeds. The date of the conveyance and the minerals commonly recognized at the time of the conveyance were determinative of the issue. This interpretation was based on several cases. *Id.*

81. *Cantley v. Hubbard*, 623 So. 2d 1079, 1080 (Ala. 1993).

82. *Id.* at 1079.

83. 619 So. 2d 1305 (Ala. 1993).

84. *Cantley*, 623 So. 2d at 1080. Justice Maddox entered a dissenting opinion stating that the reservation in the 1929 warranty deed contained a "latent ambiguity" and thus concluded that summary judgment was inappropriate. *Id.* at 1082.

85. For additional discussion of the *West* case, see John Land McDavid, Summary, *Construction of Express of "all coal" in Deed*, 9 E. MIN. LAW FOUND. CASE UPDATE 16 (1994).

86. *West*, 631 So. 2d at 216.

87. *Id.* at 216-17.

88. *Id.* at 222-23.

89. *Id.* at 224.

90. *Id.* at 223 (citing *Williams v. Gibson*, 4 So. 350, 353-54 (Ala. 1888)). The *Williams* court based its findings on the "rule of capture." *See* Robert E. Hardewicke, *The Rule of Capture and Its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391, 393 (1935)).

91. *West*, 631 So. 2d at 224.

92. *Id.* at 229.

93. *Id.* On December 10, 1993, the Alabama Supreme Court overruled an application for rehearing. The court, however, modified its October 8, 1993 opinion by adding the final sentence of the above-referenced quote.

94. *Id.*

95. *Id.* Justice Maddox, however, wrote a dissenting opinion. He interpreted the deeds at issue as ambiguous and, therefore, determined that the rules of deed construction set forth in *Nettles v. Lichtman*, 152 So. 2d 450, 452 (Ala. 1934) and *Williams v. Johns-Carroll Lumber Co.*, 192 So. 278, 280 (Ala. 1939) were applicable. Justice Maddox did not believe that the parties to the Deeds contemplated coalbed methane development at the time the deeds were executed. He reasoned: "Why would a party retain the right to something which is only a waste product with well-known dangerous propensities? . . . It strains credulity to think that the grantor intended to reserve the right to extract a valueless waste product with the attendant potential responsibility for damages resulting from its dangerous nature." *West*, 631 So. 2d at 232 (Maddox, J., dissenting) (quoting *Vines v. McKenzie Methane Corp.*, 619 So. 2d 1305, 1308 (Ala. 1993)). Although the definition of "gas," included in the oil and gas statutes in effect at the time, was broad enough to include coalbed methane, Justice Maddox also noted that such a conclusion was probably not the intention of the legislature. *Id.* at 230-31 (referencing Ala. Code § 9-17-1). Justice Maddox was unable to distinguish the *Vines* and

Hoge cases from the case at bar and would have, therefore, applied the holdings in these cases (*Vines* and *Hoge*) to the present case. *Id.* at 232. *See also In re: Hillsborough Holdings Corp.*, 207 B.R. 299 (Bankr. M.D. Fla. 1997) (bankruptcy court applying Alabama law under *West* held that coalbed methane extracted from horizontal and vertical wells where the gas was "captured" directly from the coal seams was owned by coal owners, and coalbed methane captured by gob wells was owned by oil and gas owners since the gas did not remain within the coal until the time of capture.)

96. *Southern Ute Indian Tribe v. Amoco Production Co.*, 874 F. Supp. 1142 (D. Colo. 1995) *rev'd* 119 F.3d 816 (10th Cir. July 16, 1997).

97. *Southern Ute Indian Tribe v. Amoco Production Co.*, 119 F.3d 816 (10th Cir. July 16, 1997).

98. *Id.* at 821.

99. *Id.* at 826.

100. 88 Interior Dec. 538 (1981).

101. *Southern Ute*, 119 F.3d at 833.

102. *Id.* at 836.

103. For a detailed analysis of the case at the trial court level, *see* Elizabeth A. McClanahan, *Coalbed Methane: Myths, Facts, and Legends of its History and the Legislative and Regulatory Climate into the 21st Century*, 48 OKLA. L. REV. 471, 498-506 (1995).

104. 186 S.E.2d 20 (Va. 1986).

105. *Id.* at 22.

106. *Finite*, (No. 93-L-47).

107. *Id.* (Complaint at 2-5).

108. *Id.*; see Answer to Defendants/Counterplaintiff's Affirmative Defenses and Counterclaims at 1-2.

109. *Id.* at 10.

110. *Id.* at 9-10.

111. *Id.* at 10.

112. *Id.* at 11-12.

113. M. Jill Morgan & Elizabeth A. McClanahan, *Competing Ownership Claims to Coalbed Methane in the Appalachian Basin*, LANDMAN, July-Aug. 1990, at 23.

114. *Id.*

115. *Id.*

116. *Id.*

117. *See International Salt Co. v. Geostow*, 878 F.2d 570, 575 (2d Cir. 1989); *see* note 126.

118. Morgan & McClanahan, *supra* note 113.

119. *Id.*

120. *Pinnacle Petroleum Co.*, No. CV-87-3012 (Ala. Cir. Ct. July 28, 1989) (order partially granting defendant's motion for summary judgment).

121. *Id.* Litigation in the case continued in certain bankruptcy proceedings. The court granted Pinnacle's motion to sever claims against Jim Walter to allow Pinnacle to proceed against the solvent defendants. *Id.*

122. W.L. Summers, LAW OF OIL & GAS, § 758.1 at 84 (Supp. 1997).

123. *Id.*

124. *Attebery v. Blair*, 91 N.E. 475, 479 (Ill. 1910) (finding mineral owner could "use the space where the coal was found in any way which they saw fit"); *Lillibridge v. Lackawana Coal Co.*, 22 A. 1035, 1037 (Pa. 1891) (explaining that the surface owner "cannot possibly use any part of the space left by the removal of the coal, and hence they are not obstructed in the slightest degree. The right to use that space is exclusively in the" mineral owner).

125. *See Webber v. Vogel*, 42 A. 4, 5 (Pa. 1899) (stating that although *Lillibridge* is not overruled, the coal owner has a right to the mine space only while work was progressing. The coal interest did not include "an undisputed and perpetual right of way under another's land); *see also Pomposini v. T.W. Phillips Gas and Oil Co.*, 580 A.2d 776 (Pa. 1990) (the right to extract gas did not include the right to use the cavernous spaces owned by the lessor for the storage of gas in absence of express agreement).

126. *See International Salt Co. v. Geostow*, 878 F.2d 570 (2nd Cir. 1989) (granting right to use of excavated cavity so long as mine is not exhausted or abandoned to owner of mineral interest. Use of cavity is contingent upon the fact that the mine is not exhausted or abandoned. Mineral owner owns only the salt, not the excavation cavity or containing chamber. However, the court indicated a deed granting "'mines *and* minerals'" could entitle the mineral owner to the container space after minerals are depleted).

127. Summers, *supra* note 122, n. 67.5. *See Ellis v. Arkansas Louisiana Gas Co.*, 450 F. Supp. 412 (E.D. Okla. 1978) (holding that a grant of minerals gives grantee the right to explore and produce the minerals — grant does not convey "the stratum of rock containing the pore spaces within which the oil and gas may be found") (the American rule is that the cavern which remains after the hard minerals are mined is owned by the surface owner) (portion of case involving prescriptive easement affirmed by 609 F.2d 436 (10th Cir. 1979)); *Emeny v. United States*, 412 F.2d 1319 (Cl. Ct. 1969) (oil and gas leases for purposes of mining and operating for oil and gas do not grant rights to store foreign minerals in closed structure or underground dome under leased property); *Miles v. Home Gas Co.* 35 A.D.2d 1042 (N.Y. 1970) (grant of "all the oil, gas and minerals . . . together with right at all times to enter on said premises and to bore wells, make excavations, lay pipes and remove all oil, gas and minerals found thereon" conveyed rights pertaining only to production and transmission and could not be construed to cover use of depleted domes or strata for storage of gas from foreign fields); *U.S. v. 43.42 Acres of Land*, 520 F. Supp. 1042 (W.D. La. 1981) (landowner, not mineral

owner, entitled to payment for use of salt cavity, created by removal of salt, for storage purposes); *Mallon Oil Co.*, 104 IBLA 145, 150 (Sept. 2, 1988) ("The general rule in the United States appears to be that, once the minerals have been removed from the soil, the space occupied by the minerals reverts to the surface owner by operation of law."); *Department of Transportation v. Goike*, 560 N.W.2d 365 (Mich. App. 1996) (storage space, once it has been evacuated of the minerals and gas, belongs to the surface owner).

128. *Tate v. United Fuel Gas Co.*, 71 S.E.2d 65 (W.Va. 1952).

129. *Id.* at 71.

130. *Id.* at 67-68.

131. *Id.* at 71.

132. *Id.* at 71.

133. *Id.* at 72.

134. W.Va. Code §§ 22-21-1 *et seq.* (1994).

135. *Id.*

136. *Id.* § 22-21-1(a) (1994).

137. *Id.* § 22-21-1(b) (1994).

138. *Id.* §§ 22-21-4,5 (1994).

139. *Id.* § 22-21-2(c) (1994).

140. *Id.* § 22-21-2(l), (m) (1994).

141. *Id.* § 22-21-2(b) (1994).

142. *Id.* § 22-21-2(r) (1994).

143. *Id.* § 22-21-20 (1994).

144. *Id.*

145. *Id.*

146. *Id.* § 22-21-6 (1994).

147. *Id.* § 22-21-6(g) (1994).

148. *Id.* § 22-21-7 (1994).

149. *Id.* § 22-21-8 (1994).

150. *Id.* § 22-21-7(a) (1994).

151. *Id.*

152. *Id.* § 22-21-7(b) (1994).

153. *Id.* § 22-21-15 (1994).

154. *Id.* § 22-21-15(b) (1994).

155. *Id.* §§ 22-21-16, 17 (1994).

156. *Id.* § 22-21-17(a) (1994).

157. *Id.* § 22-21-17(a) (1994).

158. *Id.* § 22-21-15(a) (1994).

159. *Id.* § 22-21-17(b)(1)-(10) (1994).

160. *Id.* § 22-21-17(c)(1)-(6) (1994).

161. *Id.* § 22-21-18 (1994).

162. *Id.* § 22-21-15 (1994).

163. The operator designated in the "pooling order" is responsible for drilling, completing, equipping, operating, plugging and abandoning the well. *Id.* § 22-21-17(d). The operator must also market the well's production and distribute proceeds in accordance with the Review Board's division order. *Id.*

Once a pooling order is issued, coalbed methane owners, claimants and lessees may make one of the following elections within thirty (30) days after the order is issued:

1) To sell or lease its interest to the operator on such terms as the parties may agree. If no agreement is reached, the parties must abide by the Review Board's terms as set forth in the order;

2) To become a working interest owner by participating in the risk and cost of the well; or

3) To participate in the operation of the well as a carried interest owner.

Id. §22-21-17(e).

In the event a coalbed methane owner, claimant or lessee does not make an election within the specified time, they will be deemed to have elected to sell or lease under the first election option set forth above. *Id.*

The proceeds and risks to be assumed by working interest owners, royalty owners and carried interest owners are dictated at § 22-21-17 (f), (g), (h) (1994).

164. *Id.* § 22-21-17(I) (1994).

165. *Id.* § 22-21-17(I)(1)-(2) (1994).

166. *Id.* § 22-21-17(k) (1994).

167. *Id.* §§ 22-21-21,22 (1994).

168. *Id.* § 22-21-23 (1994); W.Va. CSR 38-23-6,7,8 (1996).

169. *Id.* § 22-21-22(c) (1994).

170. W.Va. Code § 22-1-7(4) (1994) (Office of Oil and Gas charged with administering and enforcing, under the supervision of the Director, provisions governing oil and gas wells and underground storage reservoirs).

171. W.Va. Code § 22-9-1 *et seq.* (1994).

172. *Id.* § 22-9-1*et seq.* (1994); Telephone Interview with Mike Lewis, *supra* note 13.

173. *Id.* § 22-9-1(5) (1994).

174. *Id.* § 22-9-1(6) (1994).

175. *Id.* § 22-9-1(10) (1994).

176. *Id.* § 22-9-1(1) (1994).

177. *Id.* § 22-9-1(2) (1994).

178. Telephone Interview with Mike Lewis, Assistant Chief, West Virginia Office of Oil and Gas (March, 1998).

179. *Id.*

180. *Id.*

181. W.Va. Code § 22-9-2(a) (1994).

182. Information required regarding oil and gas wells includes the name of the operator, date drilled, total depth, depth of production if the well was productive of oil or gas, the initial rock pressure and volume, the depths at which all coal seams were encountered and a copy of the driller's log or other similar information. At the time of the filing of the maps and data such person shall file a detailed statement of what efforts have been made to determine that the wells shown on said map are accurately located and that to the best of such person's knowledge, the wells are all the oil or gas wells which have ever been drilled into or below the storage stratum within the proposed storage reservoir or within the reservoir protective area. This statement must also include information as to whether or not the initial injection is for testing purposes, the maximum pressures at which injection and storage of gas is contemplated, and a detailed explanation of the methods to be used or which have been used in drilling, cleaning out, reconditioning or plugging wells. *Id.*

183. *Id.* § 22-9-2(b) (1994).

184. *Id.* § 22-9-5 (1994).

185. *Id.* § 22-9-3 (1994).

186. *Id.* § 22-1-7(4) (1994); Telephone interview with Mike Lewis (January, 1998) *supra* note 13.

187. Telephone interview with Mike Lewis, *supra* note 13.

188. W.Va. Code § 24-2-1 (1992). "Public utility" is defined as an entity "engaged in any business" that is a "public service." W.Va. Code § 24-2-2 (1992). A corporation which lays its own pipeline to transport natural gas produced or purchased in a gas field and to deliver the same to industrial consumers with whom it has negotiated private contracts is not a public utility. *Wilhite v. Public Service Commission*, 149 S.E.2d 273, 150 W.Va. 747 (1966); Telephone interview with David Ellis, Director of Utilities Division, Public Service Commission (Jan., 1998).

189. Telephone interview with David Ellis, *supra* note 188.

190. 42 U.S.C. § 7172.

191. W.Va. Code § 24B-1 *et seq.* (1992); W.Va. Code § 24B-2(3)(1992); Telephone interview with David Ellis, *supra* note 188.

192. *Id.*

193. American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada* (1997).

194. See discussion of *Tate v. United Fuel Gas Co.,* 71 S.E.2d 65 (W.Va. 1952), in Section V.